

## REMARKS

### **I. Status of the Application**

Claims 1-21 are presently pending in the application. Claims 5, 6, and 9-21 have been cancelled without prejudice to the filing of any appropriate continuation applications. Claims 1-4 and 7 remain rejected under § 102(b) as being anticipated by Huang et al. (1997) *Anal. Chem.* 69:4577. Claim 8 is objected to as being dependent upon a base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicants gratefully acknowledge the Examiner's withdrawal of the rejection of claims 1-4, 7 and 8 over the Klaerner reference in view of Applicants' Declaration.

Applicants have amended the claims to more clearly define and distinctly characterize Applicants' novel invention. The amendments to the claims can be found in the specification and the claims as originally filed. Specifically, support for the amendment to claim 1 to recite covalently attaching a plurality of macromolecules to the polymeric brush can be found in the specification at least at page 25, line 7, where Applicants teach that macromolecules can be prepared on polymeric brush substrates, and at page 8, lines 16-17, where Applicants teach that polymeric brushes are capable of attachment of macromolecules thereon. Applicants respectfully submit that the amendments presented herein do not raise new issues requiring further search, and add no new matter.

### **II. Claims 1-4 and 7 Are Not Anticipated by Huang et al.**

At page 3, section 8 of the instant Office Action, claims 1-4 and 7 remain rejected under § 102(b) as being anticipated by Huang et al. (1997) *Anal. Chem.* 69:4577. The Examiner is of the opinion that the recitation in claim 1 "for solid-phase synthesis of macromolecules" does not

provide any manipulative difference to the substrate and especially does not provide any manipulative difference to the claimed method of making. The Examiner asserts that Huang et al. discloses benzyl chloride free radical initiators that are covalently attached to a silica surface, and that the silica of the reference reads on the claimed substrate. The Examiner further asserts that the substrate of the Huang reference is clearly capable of performing the intended use of solid-phase synthesis of macromolecules, and thus is capable of performing the intended use. Applicants respectfully traverse this rejection based on the amended claims now presented.

Applicants' amended claims recite a method of preparing a polymeric brush substrate for use in solid-phase synthesis of macromolecules, the method comprising providing a substrate for solid-phase synthesis of macromolecules to which one or more free radical initiators are covalently attached, wherein each free radical initiator has a radical generation site distal to the substrate, contacting the covalently attached substrate with monomers under conditions that promote free radical polymerization from the radical generation sites of the initiators to form a polymeric brush, and *covalently attaching a plurality of macromolecules* to the polymeric brush. Applicants' claimed method provides a polymeric brush substrate that is useful in array technologies (page 19, lines 3-9).

In contrast to Applicants' claimed methods, Huang et al. teaches the growth of thin polymer films on a silica gel (abstract and page 4578, experimental section). Huang et al. neither teaches nor suggests covalently attaching a plurality of macromolecules to their polymer thin films as claimed by Applicants. The Examiner has already recognized this deficiency of Huang et al. at page 4, second full paragraph of the instant Office Action, where the Examiner states "the reference described below reads on all of the claimed limitations except for the intended use and thus is deemed to anticipate the instant claims."


Thus, Huang et al. fails to teach all of Applicants' claim limitations. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-4 and 7 under § 102(b) over Huang et al.

### III. Conclusion

Having addressed all outstanding issues, Applicants respectfully request reconsideration and allowance of all pending claims. To the extent the Examiner believes that it would facilitate allowance of the case, the Examiner is requested to telephone the undersigned at the number below.

Respectfully submitted,

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John P. Iwanicki, Reg. No. 34,628  
BANNER & WITCOFF, LTD.  
28 State Street, 28th Floor  
Boston, MA 02109  
(617) 720-9600